CARL T. JONES
CORPORATION

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June 2, 1995

Mr. William F. Caton, Acting Secretary
Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20554

DOCKET FILE COPY ORIGINAL

Re: ET Docket No. 95-19

Dear Mr. Caton:

Enclosed is the original signature copy and nine additional copies of the Comments of Carl T. Jones Corporation in the Notice of Proposed Rulemaking regarding the Commission's Amendment of Parts 2 and 15 of the Commission's Rules to Deregulate the Equipment Authorization Requirements for Digital Devices. Pursuant to the procedures referred to in Paragraph 28 of the Notice, it is requested that each Commissioner receive a personal copy.

If there are any questions regarding these Comments, please contact the undersigned.

Sincerely,

Carl T. Jones, Jr., P.E.
President

CTJ/lj

Enclosures

No. of Copies rec'd 0+9
List A B C D E

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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Parts 2 and 15 of the	)	
Commission's Rules to Deregulate the	)	
Equipment Authorization Requirements	)	ET Docket No. 95-19
for Digital Devices	)	

DOCKET FILE COPY ORIGINAL

COMMENTS OF CARL T. JONES CORPORATION
RE: FCC PUBLIC NOTICE DATE FEBRUARY 7, 1995

Carl T. Jones Corporation (CTJC) is a communications engineering firm specializing in FCC Equipment Authorization testing and in the design and implementation of broadcast and other communications systems and facilities. CTJC established a laboratory for performing Type Acceptance and Certification testing of radio transmitters and receivers in the early 1970's. This testing was expanded to include personal computers and computer peripherals with the adoption of the Digital Device Rules in 1982. Since that time, CTJC has tested literally hundreds of computers and computer peripherals for compliance with Parts 2 and 15 of the FCC's Rules and Regulations.

In Public Notice ET Docket No. 95-19 ("Notice"), dated February 7, 1995, the Commission proposes to amend Parts 2 and 15 of its Rules and Regulations to streamline and relax the equipment authorization requirements for personal computers and computer peripherals. Key elements of the Commission's proposal include:

- Replacement of the requirement for FCC Certification of personal computers with a manufacturer's or supplier's self Declaration of Compliance.

- Establishment of a requirement that testing laboratories performing FCC compliance tests on computers and computer components be accredited under the NIST NVLAP program.

- Establishment of procedures for authorization of modular computer components and modular computers.

CTJC is in agreement with the intent of the Commission's proposed Rules to reduce the burden on manufacturers with regard to compliance. We are also in agreement with the Commission that there has been a significant improvement in the compliance rate for newly introduced personal computer products. This improvement was greatly fostered by the Commission's Rules which directly addressed compliance of the overall computer system. This approach insured, with high probability, that the end product sold to the consumer was compliant.

Further, early on the Commission adopted a strong sampling program which forced manufacturers and suppliers to address Electromagnetic Capability ("EMC") issues or face long delays in getting their products to market. With the FCC re-testing a high percentage of new products, there were no back doors or loopholes in the system. This system worked well and the result is that today most systems that the CTJC lab tests are designed with EMC as a key design parameter and many are compliant on first test.

Now, the Commission is proposing to relax the compliance requirements to allow manufacturers more flexibility in design and to reduce the cost and time required to bring new products to market. The Commission's proposals are unquestionably of benefit to the computer industry, however, we believe that the proposals as stated in the "Notice" pose a significant threat to other communications services in the form of harmful interference.

Only a handful of visionaries could have predicted the widespread use that computers have taken on in our daily lives since 1982. The spread of personal computers through the workplace and into the home presents a great potential for interference to other communications services such as television and radio reception, cellular telephone and PCS services, business and public safety radio, etc. It is because of this great potential that the Commission must be cautious when considering changes to the present Rules which have, for the most part, successfully controlled interference from personal computers and computer peripherals.

Replacement of Certification with a Declaration of Compliance

Under the present Rules, a manufacturer or supplier must demonstrate and certify that a personal computer is compliant with the Rules through application to the FCC. The application must be granted by the FCC prior to marketing or selling the device in the United States. This procedure forces the manufacturer to address EMC issues up-front and to present factual test results to the FCC demonstrating compliance. This system has been effective in controlling interference from personal computers and peripherals over the past 13 years. We have observed, however, that the Rules in this area were more effective when accompanied by a strong sampling and enforcement program as was in place during the first several years after adoption of the Digital Device Rules.

Under the proposed Rules, the manufacturer or supplier will be permitted to issue a self Declaration of Compliance (DOC) for a new product without having to demonstrate compliance through application to the FCC. Our primary concern with this new approach is that it eliminates the up-front mandatory testing requirement, essentially leaving it to the discretion of the manufacturer or supplier. This procedure takes emphasis away from EMC issues and most probably will result in an increase in interference from personal computer products unless appropriate safeguards are instituted along with any proposed Rule change.

Of course many manufacturers and suppliers would continue, under the proposed DOC procedure, to conscientiously test their products to insure that they were compliant prior to marketing these products. Others, however, would likely succumb to the pressure to bring their products to market without having to bear the time and expense of insuring the device is compliant with the FCC's Rules. This, of course, would not be in the public interest.

We support maintaining the current Certification requirement with the exception that the manufacturer or supplier of a personal computer system could market and sell the new product after tendering a completed Application to the FCC. This would eliminate the delay in getting the new product to the marketplace while maintaining the mandatory nature of the final compliance test. The manufacturer would assume some inherent risk, under this approval, should the FCC dismiss the Application and have to recall the product from the market. However, this increased risk would even place greater emphasis on insuring that the product was compliant at the time of its introduction to the market place.

A second alternative, which carries increased risk of interference, would be that of requiring personal computers, for which the manufacturer or supplier issues a Declaration of Compliance, to also be notified. This step could be considered an interim procedure until the Commission gathers sufficient data to insure that the new DOC procedure does not contribute to an overall increase in interference to communications services. This step would have to be accompanied by an effective sampling program to fully evaluate the impact of the Rule change. Notification during an interim period would provide the Commission with the information necessary to uniformly sample the population of new self-declared computer products in the marketplace. Marketing and sales of new products could be initiated at the time notification is submitted to the FCC.

With regard to sampling and enforcement, it is our observation that this important function of the Commission has experienced disproportionate cuts in funding and now may lack adequate resources to effectively enforce the Commission's Rules and Regulations. We note in this regard the most recent announcement of the closing of several of the FCC's field offices. We believe that an effective sampling and enforcement program will insure a level playing field for all parties, particularly where deregulation is under consideration as is the case in the instant "Notice".

In the "Notice" the Commission states, "we plan to reallocate a portion of our resources that had been used to process equipment certification applications to increased examination and testing of sample equipment on the market." We urge the Commission to make a strong and lasting commitment to an effective sampling and enforcement program. It is difficult for any manufacturer, no matter how conscientious, to justify expending the time an effort complying with the Rules when a top competitor is circumventing the Rules with little or no risk of penalty.

In a recent conversation with a client concerning the European EMC Directives, we learned that 80 to 90 percent of the notebook computers which contained a manufacturer's Declaration of Conformity were rejected by Germany as non-conforming. Two pertinent points are brought out by this example. First, self declaration of compliance may not work quite as well as the Commission anticipates, at least in its initial stages. We feel it is important that if the Commission adopts some form of DOC procedure for personal computers, it must set aside the necessary resources and establish procedures to identify and correct problems with the procedure early or we may be faced with tens of thousands of products on the market which are non-compliant and causing harmful interference on a large scale.

The second point that the example demonstrates is that Germany, and we suspect most of the nations in the European Union, has in place a strong and effective sampling and enforcement program. We do not want to be in the position of becoming a dumping ground for non-compliant EU equipment because we have not allocated the resources required to adequately enforce our own Rules and Regulations. Again, we urge the Commission to place greater emphasis on allocating the resources for the establishment of a strong an effective sampling and enforcement program.

Accreditation of Test Laboratories

The FCC has proposed in the "Notice" that test laboratories be accredited under the National Institute of Standards and Technology (NIST), National Voluntary Laboratory Accreditation Program (NVLAP). Currently laboratories and manufacturers submitting test data in support of Applications for Certification are required to submit to the FCC a description of their open-field test range and measured field strength data, demonstrating that the test range complies with the American National Standards Institute Standard C63.4. This is the only formal requirement for test labs under the current FCC Rules.

We agree with the Commission that some accreditation program may be required in order to achieve the long range goal of acceptance of data from U.S laboratories by foreign governments. We do not agree with the Commission that NVLAP is the appropriate accreditation program for this purpose. After some careful review of the requirements, we find the program to be overly burdensome and expensive for the purpose at hand. We recommend that a more practical accreditation program be adopted for the purpose of compliance testing of personal computers. The NVLAP program appears more geared to the sophistication required in testing components for the Space Shuttle rather than the more practical world of compliance testing of personal computers.

A second point which should be considered in this regard is that the NVLAP accreditation program, which the Commission refers to in the "Notice", appears to be for digital devices only. In our laboratory, for example, we test other devices regulated by the FCC such as: communications transmitters and receivers, radio controlled toys, telemetry devices, etc. Should not the Commission consider NVLAP accreditation for these other services? Why single out personal computers? We believe that when other services are considered the cost and administrative burden for smaller test laboratories may be prohibitive. The Commission may want to consider addressing the subject of laboratory accreditation in a separate proceeding where the scope is enlarged to include other services and equipment regulated by the FCC. In this manner, the Commission may get a more thorough understanding of the total cost of alternative accreditation programs and their potential impact on the testing industry.

CTJC is a small testing laboratory which takes pride in its performance and record before the Commission. As a non-NVLAP laboratory we believe that we have in place the equipment, personnel, training and procedures to assure accurate test results without having to install a cumbersome administrative system to endlessly document routine materials associated with the daily activities of our lab. On the other hand, we do believe that a practical accreditation program has a distinct place in this global society. Therefore, we urge the Commission to rethink their proposed choice of the NVLAP accreditation program and to explore other more practical options taking into account other services regulated by the FCC. Further, there is no evidence that clearly demonstrates that NVLAP accredited laboratories have performed any better than non-NVLAP accredited laboratories with regard to digital device testing.

The Commission has also asked in the "Notice" for comments on whether or not manufacturer's laboratories should be accredited. Assuming the Commission adopts Rules requiring some form of accreditation for testing laboratories, manufacturer's performing tests on equipment as the final determination of compliance, should also be required to be accredited. In other words, there should be no double standard when it comes to compliance.

Authorization of Modular Components and Modular Personal Computers

The Commission has proposed, in the "Notice", permitting individual authorization of modular computer components, specifically, CPU boards, power supplies and enclosures. The proposal, if adopted, would allow manufacturers and suppliers to construct a personal computer from authorized modular components and self declare compliance of the final computer system with no further testing required. In addition, it would allow the interchange of authorized modular components without further testing of the modified system. This proposal is a major divergence from the systems testing approach currently in place.

The modular authorization approach has obvious financial advantages for the manufacturers and suppliers of personal computer systems, however, it carries with it far too great a risk of widespread interference to other communications services. The current Rules require testing of each new personal computer system to insure, with high probability, that the final system, delivered to the consumer, will not result in harmful interference to other communications

services such as Broadcast Radio and Television, Cellular, PCS, and Public Safety. If adopted the new Rules will permit testing of only the components of a system while eliminating the requirement to test the final assembled system for compliance with the Rules. This is a dangerous leap of faith that is apparently proposed without the benefit of sufficient data or experience to insure that the risk of increased interference is tolerably small.

Our experience in testing personal computer systems over the past 13 years has been that the interaction between subassemblies is as great a factor in generating potentially harmful radiated emissions as the contribution from the individual subassemblies taken alone. That is, in terms of radiated emissions, the whole can be greater than the sum of its parts. At this point in time, it is difficult to accept that there is a sufficient base of experience with "authorized components" to suggest that there is, as stated by the Commission "... small risk that certain combinations of components might not comply with our standards...". We believe that this new modular authorization approach is essentially untested and potentially could, if adopted, result in widespread harmful interference.

With the potential benefits of such an approach so great, we feel that achieving the goal of modular component and computer authorization is important, however, we oppose adoption of such an approach at this time considering, what we believe to be, a substantial risk of increased interference. In light of this, we propose that the Commission, at this time, take a smaller step toward the goal of modular computer authorization.

We recommend that new Rules requiring modular authorization of CPU Boards, power supplies and enclosures should be adopted. This will improve EMC performance at the sub-assembly level. Once these authorized components become available, the Commission and the industry can, at that time, gather data on personal computer systems comprised of authorized modular components to adequately assess the interference risk and develop the necessary refinements to test procedures and/or radiation limits in order to insure a low risk of increased interference. We strongly oppose any proposal, at this time, to authorize personal computers comprised of modular components without final testing of the assembled system.

A second concern which we have with regard to authorizing a computer system comprised of authorized modular components is that of responsibility for interference. As an example, assume that a manufacturer or supplier fabricates a computer system comprised of only authorized modular components and issues a DOC based on that fact. Now, if the final system emissions exceed the Commissions standards, who is responsible and liable? The manufacturer or supplier of the equipment has dutifully followed the Commissions Rules and so to have the manufacturers of the modular components, yet possibly thousands of systems have been sold, each having the potential to cause harmful interference.

Should we bury our heads at this time to the potential risk of interference which will arise should the Commission adopt Rules, as proposed, or should we take a more cautious approach with the goal of achieving modular computer authorization in the near future without the inherent

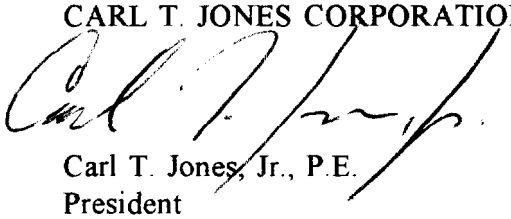
risk? We believe the latter approach is more prudent and in the best overall interest of the computer and communications industries and the general public.

Summary

We believe the Commission's proposals, as stated in the "Notice", although offering substantial benefits to the computer industry, do not adequately address the potential risk of harmful interference to other communications services. We believe that a more cautious approach should be taken which includes appropriate safeguards as proposed in the body of our comments. We agree with the Commission that an accreditation program for U.S. laboratories is needed, in light of recent developments in Europe and other parts of the world, but we disagree with the proposed choice of the NIST NVLAP program. Further, we suggest that the topic of laboratory accreditation be the subject of a separate proceeding in order to expand the scope to include other equipment and services regulated by the FCC.

Respectfully submitted,

CARL T. JONES CORPORATION



Carl T. Jones, Jr., P.E.
President